

PATENT
450101-03685**REMARKS/ARGUMENTS**

Reconsideration and withdrawal of the rejections of the application are respectfully requested in view of the amendments and remarks herewith, which place the application into condition for allowance. The present amendment is being made to facilitate prosecution of the application.

I. STATUS OF THE CLAIMS AND FORMAL MATTERS

Claims 1-9 are currently pending. Claims 1, 8 and 9 are independent. Claims 1-5 and 8-9 are hereby amended. No new matter has been introduced. Support for this amendment is provided throughout the Specification as originally filed.

Changes to the claims are not made for the purpose of patentability within the meaning of 35 U.S.C. §101, §102, §103, or §112. Rather, these changes are made simply for clarification and to round out the scope of protection to which Applicants are entitled.

II. REJECTIONS UNDER 35 U.S.C. §102

Claims 1 and 7-9 were rejected under 35 U.S.C. §102(e) as allegedly anticipated by U.S. Patent No. 6,233,559 to Balakrishnan. Applicants respectfully traverse this rejection.

Independent, as amended, claim 1 is representative and recites, *inter alia*:

"A speech recognition apparatus . . . comprising:
extraction means for extracting characteristic values of said input speech, the input speech comprising a plurality of input words;
. . .
selection means for selecting one or more first words from the plurality of input words to be processed by speech recognition processing, based on a first measure calculated using said characteristic values, and for selecting one or more second words from the plurality of input words based on a second measure different from said first measure . . ."

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...
calculating said score of a concatenation of said first and second words selected
by said selection means” (emphasis added).

Applicants respectfully suggest that the Office Action misinterprets the disclosure of
Balakrishnan.

As understood by the Applicants, Balakrishnan discloses controlling multiple
applications each having voice recognition capability. Col. 2, lines 44-53. The Balakrishnan
device determines whether Application A or Application B, for example, should respond to a
user’s voice command. Col. 3, lines 17-21. Application A has a first vocabulary and
Application B has a second vocabulary. Each respective vocabulary has words or characters that
are needed to be recognized to operate the associated application. There may be words or
characters that are common to both applications. Col. 3, lines 31-34; col. 3, lines 58-64. In
response to a user input voice command word (plurality of words), each application returns a
respective recognition score. An arbitrator determines which application should respond to the
user’s command word.

That is, in Balakrishnan, a user input speech receives a voice recognition score from two
or more different applications. The input speech receives a recognition score from a first
vocabulary in a first application and a second vocabulary in a second application. The
Balakrishnan device does not take a first word from the user’s input speech and also a second
word from the user’s input speech and subject each to a different measure for recognition.

In contrast, claim 1 recites, “the speech comprising a plurality of input words . . .
selection means for selecting one or more first words from the plurality of input words to be
processed by speech recognition processing, based on a first measure calculated using said

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characteristic values, and for selecting one or more second words from the plurality of input words . . . calculating said score of a concatenation of said first and second words.”

Thus, in the present invention, the speech that is to be recognized comprises a plurality of input words by a user. The first and second words are selected from the plurality of words that are part of the input speech to be recognized. The first and second words come from the input speech to be recognized. It is those first and second words from the speech that are analyzed against the databases.

The speech recognition apparatus according to the present invention includes selection means for selecting one or more first words from a group of words to be processed by speech recognition processing, based on a first measure calculated using the characteristic values, and for selecting one or more second words based on a second measure different from the first measure, and score calculation means for calculating the score of the first and second words selected by the selection means. The selection means may select, as the second words, the words having the part of speech satisfying a pre-set condition, with the part of speech as the second measure, for example. Publ. App. par. [0037]-[0040]. In an example, calculations of the language score of each word may be made based on the bigram prescribing the probability of the word in question concatenated to the directly previous word. Publ. App. par. [0098].

The present invention has the advantage that from a set of words in received speech subjected to processing for speech recognition, one or more first words of the received speech are selected on the basis of a first measure calculated using characteristic values, while one or more second words from the received speech are selected on the basis of a second measure different from the first measure. The scores are calculated on the so selected first and second

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words from the received speech. Thus, the risk of deterioration in the accuracy in speech recognition is reduced due to non-selection of the second words based on the first measure.

Claim 1 is patentable over the Balakrishnan reference because that reference does not disclose each and every element of the present invention. In particular, Balakrishnan does not disclose, "selecting one or more first words from the plurality of input words to be processed by speech recognition processing, based on a first measure calculated using said characteristic values, and for selecting one or more second words from the plurality of input words based on a second measure different from said first measure . . . calculating said score of a concatenation of said first and second words" as recited in claim 1.

For reasons similar or somewhat similar to those described above with regard to independent claim 1, independent claims 8 and 9 are also believed to be patentable.

III. REJECTIONS UNDER 35 U.S.C. §103(a)

Claims 2-6 and 9 were rejected under 35 U.S.C. §103(a) as allegedly unpatentable over Balakrishnan in view of various combinations of:

Claim 2 – U.S. Patent No. 5,963,903 to Hon et al. ("Hon");

Claim 3 – Chiang et al. ("On Jointly Learning the Parameters in a Character-Synchronous Integrated Speech and Language Model," 1996);

Claims 4 and 9 - U.S. Patent No. 6,178,401 to Franz et al. ("Franz"); and

Claims 5 and 6 - U.S. Patent No. 5,960,447 to Holt et al. ("Holt").

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Neither the Hon, Chiang, Franz nor Holt references teach or suggest the element missing from Fissore as discussed above. Thus, claims 2-6 and 9 are patentable over those references for at least the same reasons as they are patentable over Balakrishnan.

IV. DEPENDENT CLAIMS

The other claims are dependent from one of the claims discussed above and are therefore believed patentable for at least the same reasons. Because each dependent claim is also deemed to define an additional aspect of the invention, however, the individual reconsideration of the patentability of each on its own merits is respectfully requested.

CONCLUSION

Claims 1-9 are in condition for allowance. In the event the Examiner disagrees with any of statements appearing above with respect to the disclosure in the cited reference, or references, it is respectfully requested that the Examiner specifically indicate those portions of the reference, or references, providing the basis for a contrary view.

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In view of the foregoing amendments and remarks, it is believed that all of the claims in this application are patentable and Applicants respectfully request early passage to issue of the present application.

Respectfully submitted,

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